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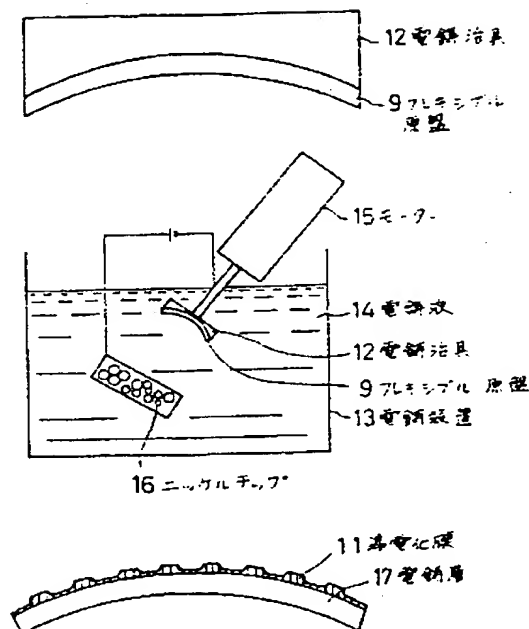
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TITLE : ROLL-STAMPER, PREPARATION
THEREOF AND MOLDING ROLL



ABSTRACT : PURPOSE: To prepare a roll-shaped stamper capable of manufacturing a molding roll having no strain by forming an electroforming layer by the electroforming treatment of the conductive film fixed to an electroforming apparatus so as to have the same curvature as a molding roll.

CONSTITUTION: An oxide film 10 composed of SiO_2 is formed to a flexible base plate 9 in thickness of about 10nm by sputtering and a conductive film 11 composed of Ni is subsequently formed thereon in thickness of about 100nm by sputtering to perform conductivity imparting treatment and, thereafter, the base plate 9 thus treated is set to an electroforming jig 12 whose curvature is matched with the roll curvature of an extrusion apparatus. Next, the electroforming jig 12 is mounted on an electroforming apparatus 13 and the conductive film 11 is set to a negative electrode while a nickel chip 16 is set to a positive electrode and a current is supplied to a nickel sulfamate electroforming solution 14 while the base plate 9 is rotated and nickel is precipitated on the base plate 9 having the conductive film formed thereto to form a stamper. Since this stamper is thin, the grinding of the rear of the stamper is performed in a state mounted to the electroforming jig and the stamper is ground so that surface roughness becomes $1\mu\text{m}$ or less to be subjected to mirror surface finish and, when the stamper is released from the base plate, a roll-shaped stamper having the same curvature as a predetermined roll is obtained.

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